

WHAT IS CLAIMED IS:

1. A method for manufacturing a single-side mirror surface wafer, comprising:

a grinding step for grinding a top surface of a semiconductor after its having been lapped;

an etching step for etching the ground semiconductor wafer; and

a double side polishing step for mirror polishing said top surface of the etched semiconductor wafer, while at the same time polishing lightly a back surface of said etched semiconductor wafer, wherein

said etching step comprises composite etching including an acid etching and an alkali etching which are performed in a predetermined sequence.

2. A method for manufacturing a single-side mirror surface wafer in accordance with claim 1, wherein in said composite etching, a semiconductor wafer is subject to one of the etching procedures selected from the group consisting of:

(1) the etching procedure where the semiconductor wafer is subject to the acid etching, followed by the alkali etching;

(2) the etching procedure where the semiconductor is subject to a first acid etching with a first acidic etching solution, followed by a second acid etching using a second acidic etching solution and then the alkali etching;

(3) the etching procedure where the semiconductor is subject to the alkali etching, followed by the acid etching; and

(4) the etching procedure where the semiconductor wafer is subject to the first acid etching with the first acidic etching solution, followed by the alkali etching and then the second acid etching using the second acidic etching solution.